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EXC-1673-61
Copy 5 of 5

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10 May 1961

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MEMORANDUM FOR THE RECORD

SUBJECT: Exhaust Recovery Silencer,

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firm decision as to whether the heat from the exhaust of the diesel generators was to be used to produce steam for heating of hangars 2, 4, 5 and 6. submitted comparative cost estimates for the two methods of heating above hangars.

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a. Under method one which would include the installation of three exhaust recovery silencers, necessary piping and fitting including a small metal structure to house two 150 horsepower boilers and associated requirements, it was estimated that this system for providing steam would cost approximately $115,000.

b. Method two was to install an independent boiler plant in an existing building consisting of three 150 horsepower boilers. This would cost approximately $60,00 thus effecting a savings of $54,000.

2. On 5 May 1961 the following individuals had a conference in office in order to reach a decision on this problem.

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A review of cost estimates revealed that under method one he had failed to consider the fact that three dry silencers would have to be procured at a cost of $3,000 each or a total of $9,000. A 5,000 gallon fuel tank at a cost of $1,200 was also included for the two 150 horsepower boilers. This tank was not considered necessary as the two boilers could be fed from the tank feeding the generators. Several other small items listed at approximately $2,000 in cost in Mr. estimate could be eliminated as not necessary. Thus the $54,000 reported as savings by was reduced to $42,000. also failed to take into consideration the fuel and man-hours saved by using the exhaust recovery silencers.

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3. The steam produced by one generator with an 800 KW load is 1,000 pounds per hour. As the electric load is increased the amount of steam will be increased. It requires one gallon of fuel to produce 100 pounds of steam per hour. Therefore, for each 1,000 pounds of steam produced from the recovery silencer there is a saving of ten gallons of fuel. In one year this amounts to 10 X 24 X 365 or 87,600 gallons of heating fuel saved by the use of only one generator. If all three generators are required to meet the electric demand the heating fuel saved will be three times as much.

4. During the six months of the year when heating of the hangars will not be required the steam generated by one exhaust recovery silencer will produce the 1,000 pounds of steam per hour required for the laboratory thus eliminating the need for boiler fireman for six months of the year.

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5. After a very careful study of the cost estimates of the two methods submitted by [redacted] making into account the amount of fuel and man-hours sa[redacted] was instructed to proceed with

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Installations Engineer
Material Staff
DPD-HD/P

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